

REMARKS

This is intended as a full and complete response to the Final Office Action dated March 24, 2006 having a shortened statutory period for response set to expire on June 24, 2006. Please reconsider the claims pending in the application for reasons discussed below.

Claims 3-6, 8-14 and 17-20 remain pending in the application and are shown above. Claims 3-6, 8-14 and 17-20 stand rejected by the Examiner. Reconsideration of the rejected claims is requested for reasons presented below.

Claim Rejections - 35 U.S.C. §102

Claims 3-6, 8-14, and 17-25 stand rejected under 35 U.S.C. § 102(b) as being anticipated by *Cheng et al.* (EP 0553691). Applicants respectfully traverse the rejection.

Cheng et al. discloses a substrate support 40, a shield ring 50, and a support means 70. (See, column 4, lines 25-55.) The shield ring 50 may comprises a plurality of shield rings 100 including an inner ring 102, an adjacent ring 104, and an outermost ring 105, and alignment of these shield rings are through tapered edges in complementary manner, not through pins. (See, column 9, lines 40-55.) In addition, the support means 70 of *Cheng et al.* is provided to support the shield ring 50 and secure the shield ring 50 to the walls of a chamber 2 by coupling through a beveled or tapered pin 72 and a beveled or tapered slot opening 52.

Since the pin 72 is formed on the support means 70 and the support means 70 is not an edge ring near a substrate's edge, *Cheng et al.* does not disclose a second edge ring having pins coupled to a first edge ring, as recited in claims 3-6, 8-14, and 17-25. In addition, because the shield ring 50 is secured to and supported by the support means 70, which in turn is secured to a chamber body or chamber wall, *Cheng et al.* does not disclose a first edge ring disposed on a substrate support, as recited in claims 3-6, 8-14, and 17-25.

Accordingly, *Cheng et al.* does not teach, show or suggest a substrate support, a first edge ring disposed on the substrate support, the first edge ring having one or more tapered recesses, and a second edge ring having one or more matching tapered

pins for mating engagement with the one or more tapered recesses of the first edge ring, wherein the first edge ring comprises a purge ring, as recited in claims 3-6, 8-14, and 17-25.

With regard to claim 21 and claims dependent thereon, *Cheng et al.* does not disclose a shadow ring overhangs a portion of a second surface of the substrate and the second surface of the substrate is opposite the first surface of the substrate. Accordingly, *Cheng et al.* does not teach, show or suggest a substrate support having a surface contacting a first surface of a substrate, a purge ring disposed on the substrate support, the purge ring having one or more tapered recesses, and a shadow ring having one or more matching tapered pins for mating engagement with the one or more tapered recesses of the shadow ring, wherein the shadow ring overhangs a portion of a second surface of the substrate and the second surface of the substrate is opposite the first surface of the substrate, as recited in claims 21-25. Applicants respectfully request withdrawal of the rejection and allowance of claims 3-6, 8-14 and 17-25.

Claims 3-6, 8-14 and 17-25 stand rejected under 35 U.S.C. § 102(b) as being anticipated by *Koai et al.* (US 6,159,299). Applicants respectfully traverse the rejection.

Koal et al. discloses a substrate support 150, a purge ring 280, and an edge ring assembly 200 for a dual-purge flow pattern to be established. (See, Abstract, column 5, lines 1-10 and lines 21-30.) As described in *Koal et al.*, the edge ring assembly 200 is provided near an outer edge of the purge ring 280 and is secured to the purge ring 280 for assisting the purge ring 280 such that a channel 226 can be formed between the purge ring 280 and the edge ring assembly 200 for directing a second purge gas flow 292 therein. The edge ring assembly 200 having rings 220, 230, and 240 is an assembly secured to an edge ring to assist the edge ring. Therefore, *Koal et al.* discloses a first edge ring and a first edge ring assembly attached to assist the first edge ring. *Koal et al.* does not teach, show or suggest a second edge ring for mating engagement with a first edge ring.

As also described in *Koal et al.*, three rings 240, 230, 220 of the ring assembly 200 are bolted together by three centering bolts 271 and are secured to an outer perimeter 280P2 of the purge ring 280 by fastening the three centering bolts 271 with three slots 288 of the purge ring 280. As a result, the ring assembly 200 can rest upon three spacing pins 272 which are screwed into the outer portion 284 of the purge ring 280 as part of the purge ring 280 and the channel 226 can form therebetween for flowing purge gas therein. (See, column 5, lines 64-67 and column 6, lines 1-46.) Therefore, the three centering bolts 271 of *Koal et al.* are provided to bolt three rings together and to secure/fasten the ring assembly 200 to the purge ring 280, and do not provide mating engagement with an second edge ring.

Accordingly, *Koal et al.* does not teach, show or suggest a first edge ring disposed on a substrate support, the first edge ring having one or more tapered recesses, and a second edge ring having one or more matching tapered pins for mating engagement with the one or more tapered recesses of the first edge ring, as recited in claims 3-6, 8-14, and 17-25.

With regard to claim 21 and claims dependent thereon, *Koal et al.* does not disclose a shadow ring overhangs a portion of a second surface of the substrate and the second surface of the substrate is opposite the first surface of the substrate. Accordingly, *Koal et al.* does not teach, show or suggest a substrate support having a surface contacting a first surface of a substrate, a purge ring disposed on the substrate support, the purge ring having one or more tapered recesses, and a shadow ring having one or more matching tapered pins for mating engagement with the one or more tapered recesses of the shadow ring, wherein the shadow ring overhangs a portion of a second surface of the substrate and the second surface of the substrate is opposite the first surface of the substrate, as recited in claims 21-25. Applicants respectfully request withdrawal of the rejection and allowance of claims 3-6, 8-14 and 17-25.

In conclusion, the references cited by the Examiner, alone or in combination, do not teach, show, or suggest the invention as claimed.

Having addressed all issues set out in the Final Office Action, Applicant respectfully submits that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,



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